REMARKS

Summary of the Office Action

Claims 1-36 are pending in the application.

Claims 1, 3-13, 15-25 and 27-36 have been rejected under 35 U.S.C. § 103(a) as being obvious from Keshav U.S. Patent No. 5,627,970 ("Keshav") in view of Yin et al. U.S. Patent No. 5,359,593 ("Yin"). Claims 2, 4, and 26 have been similarly rejected under 35 U.S.C. § 103(a) as being obvious from Keshav, and Yin in further view of Gittins et al. U.S. Patent No. 5,526,350 ("Gittins").

Applicants' Reply

Applicants have amended claim 1, 13 and 25 for clarity. Applicants respectfully traverse the prior art rejections of claims 1-36.

Prior art rejections

Independent claims 1, 13, and 25

Applicants' inventive methods and systems concern data transmission from a sender to a receiver over a digital communications network. The methods and systems involve maintaining current estimates of the available transmission bandwidth on the network; and accordingly in a real time response to the current estimates, adjusting or modifying the transmission so that the data is transmitted without congestion and received in a data sequence, which is acceptable for further processing at the receiver. Adjusting or modifying the transmitted data may include dropping selected data frames, which do not affect the usefulness of the received data sequence at the receiver.

Applicants in the previous Reply had amended the claims using the phrase "processing requirements at the receiver" to replace the objected-to phrase "an acceptable sequence of data . " Both phrases refer to usefulness of the data at the user/receiver for display. An acceptable sequence of data may, for example, have select frames dropped in a manner that avoids stopping and restarting video presentation, processing or playback at the receiver. (See e.g., specification page 1 lines 21-26). The acceptable sequence of data may involve selective retransmission of dropped frames if instructed by the receiver. (See e.g., page 4 lines 3-19). Further, for example, the acceptable sequence of data may have only certain select types of frames "dropped." (See e.g., page 7 lines 30-35, page 8 lines 7-10, page 9, lines 5-14, page 11 lines 11-23, etc.). From these examples, it is understood that the "processing requirements" are is independent of network congestion or bandwidth, but relate to the "data display" features at the receiver

Applicants have further amended claims 1, 13 and 25 here by explicitly qualifying the processing requirements as being "data-display" processing requirements. In particular, claims 1, 13 and 25 require modifying data input for transmission based on both (1) a current estimate of available bandwidth (i.e. net work condition - bandwidth or congestion), and (2) a "useful" data-display processing requirement at the receiver, which is independent of or in addition to network bandwidth or congestion condition . The data is modified so that data sequences are transmitted over uncongested networks. Further, only data sequences that are consistent with the data-display processing requirement are transmitted/delivered to the receiver.

Applicants respectfully submit that the elements of the claims are not shown, taught or suggested by the cited references — Keshav and Jin, whether taken individually or in combination. For example, none of the cited references shows, teaches, or suggests dropping

particular data frames in response to network congestion, wherein the particular data frame dropped is selected in consideration of the data-display processing requirement at the receiver.

As previously noted, Keshav is only concerned with a flow control mechanism for selecting a suitable transmission rate so that data delivery is over an "uncongested" network. Keshav does not adjust or modify the input data for "uncongested" transmission in a manner, which ensures that an acceptable sequence of data (i.e., useful according to a data-display requirement) is delivered.

Further, as previously noted, Yin describes communication of congestion control information between networks operating under dissimilar protocols such as ATM and TCP/IP. Yin uses a network interconnection device for this communication purpose. (See e.g., Abstract). Yin, as the Examiner has correctly noted, describes dropping TCP packets when congestion on the TCP network is detected and reported. (See e.g., Abstract, col. 2 line 65 - col. 4 line 8.) However, Yin drops a TCP packet only to communicate or indicate to a first network that the second network has detected congestion. (See e.g., col. 13 lines 61-67, and col. 14 lines 15-26). Yin's dropped packet can be any packet (i.e., the next packet in queue) without regard to a data-display processing requirement at the data receiver. Yin's congestion control mechanisms (such as ATM ABR and sliding window control) are themselves conventional. Like Keshav, Yin also does not show, teach or suggest modifying the input in a manner consistent with data-display processing requirements at the receiver. In particular, Yin does not show, teach or suggest 'dropping a particular data frame in response to the measure of congestion, [] wherein the particular data frame dropped is selected in consideration of the data-display processing requirement at the receiver. "

Accordingly, independent claims 1, 13, and 25 are patentable over the cited references — Keshav and Yin, even when the two references are viewed in combination..

Dependent claims 2-12, 14-24 and 26-36

Dependent claims 2-12, 14-24 and 26-36 are patentable over the cited prior art for at least the same reasons as their respective parent claims 1, 13 and 25 are patentable as discussed above.

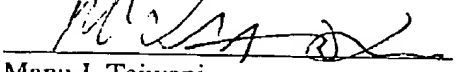
Conclusion

For the reasons set forth above, applicants respectfully submit that this application is now in condition for allowance. Reconsideration and prompt allowance of which are respectfully requested.

In case the Examiner determines that the claims do not sufficiently distinguish the invention over Keshav and Yin, applicants respectfully request a telephone interview to discuss the claim language and terms. In such case, applicants request the Examiner to kindly contact the undersigned attorney for the interview.

Respectfully submitted,

BAKER BOTTS L.L.P.

By: 

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